



Johnson Controls SDP2500 Differential Pressure Transmitter Instruction Manual

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Application

Differential pressure transmitter with 8 selectable ranges and 0..10 V output. For monitoring of differential pressure in air and other non-flammable and non-aggressive gases. Possible applications: Monitoring of air filters, fans, industrial cooling air cycles as well as overheating protection, control of air and fire damper actuators. Screw-mounted onto flat surface, prepared for mounting on DIN rail TS35 (35×7,5 mm) according to EN 60715.

Solution



Security Advice



The installation and assembly of electrical equipment should only be performed by authorized personnel.

The product should only be used for the intended application. Unauthorised modifications are prohibited! The product must not be used in relation with any equipment that in case of a failure may threaten, directly or indirectly, human health or life or result in danger to human beings, animals or assets. Ensure all power is disconnected before installing. Do not connect to live/operating equipment

Please comply with

- Local laws, health & safety regulations, technical standards and regulations
- Condition of the device at the time of installation, to ensure safe installation
- This data sheet and installation manual

Before mounting, commissioning and operation make sure that the right pressure gauge has been selected in terms of measuring range, design and, due to the specific measuring conditions, the suitable wetted medium. Only install and maintain pressure gauges by qualified personnel authorized by the plant operator. Failure to comply with applicable regulations may result in serious personal injury and / or property damage.



Notes on Disposal

As a component of a large-scale fixed installation, JCI products are intended to be used permanently as part of a building or a structure at a pre-defined and dedicated location, hence the Waste Electrical and Electronic Act (WEEE) is not applicable. However, most of the products may contain valuable materials that should be recycled and not disposed of as domestic waste. Please note the relevant regulations for local disposal.



EU conformity

Johnson Controls, Inc., declares that these products are in compliance with the essential requirements and other relevant provisions of the EMC Directive and Rohs Directive.

Enclosure with UV and weather protection

After some time, outdoor mounted plastics can lose their color and quality. Therefore, all hinged cover enclosures

are made of special white polycarbonate (PC). The light-stable colorants and additives are used to achieve optimum protection of the polymer while maintaining color stability. The titanium dioxide used is especially developed for polycarbonate and offers excellent UV protection through the reflection of the entire light spectrum including the UV component around 340 nm. This effectively counteracts the otherwise occurring photochemical polymer degradation. The color intensity is preserved for a long time without fading. The material is also resistant to cold and frost.

Technical Specifications

Models	SDP2500-R8	0..10V
	SDP2500-R8-AZ	0..10V, AZ
	SDP2500-R8-D	0..10V, with LCD
	SDP2500-R8-AZ-D	0..10V, AZ, with LCD
	SDP2500-C4-AZ-D	0..10V, AZ, with LCD, Calibration certificate – 0, 250, 500Pa
	SDP2500-C5-AZ	0..10V, AZ, Calibration certificate – 0, +500, +1000Pa
	SDP2500-C5-AZ-D	0..10V, AZ, with LCD, Calibration certificate – 0, +500, +1000Pa
	SDP2500-C6-AZ-D	0..10V, AZ, with LCD, Calibration certificate – 0, +750, +1000Pa
	SDP2500-C8-AZ	0..10V, AZ, Calibration certificate – 0, +1250, +2500Pa
Power supply	15..24 V = ($\pm 10\%$) or 24 V ~ ($\pm 10\%$) SELV	
Power consumption	typ. 1,1 W (24 V =) 1,7 VA (24 V ~)	
Measuring range pressure	-100..+100 0..+100 0..+250 0..+500 0..+1000 0..+1500 0..+2000 0..+2500 Pa (default)	
Analogue output	0..10 V, min. load 10 k Ω	
Accuracy pressure	deviation compared to the reference device measuring range ≤ 500 Pa: ± 5 Pa, measuring range > 500 Pa: ± 10 Pa	
Max. working overpressure	400 kPa	
Display	LCD 37,5x31,6 mm, measured values: Pa	
Enclosure	hinged cover enclosure, PC, pure white (with LCD, transparent cover)	
Protection	IP54 according to EN 60529, IP65 with bolted cover	
Cable entry	M20 for cable max. $\varnothing=8$ mm, seal insert for double cable entry for wire max $\varnothing=6$ mm	
Connection electrical	Terminal block, max. 1,5 mm ²	
Ambient condition	-10..+50 °C, max. 85% rH, short term condensation	
Storage condition	-30..+70 °C, max. 85% rH, short term condensation	
Mounting	Screw-mounted onto flat surface, prepared for mounting on DIN rail TS35 (35x7,5 mm) according to EN 60715	

Mounting

Before installing the device, please check all pressurized tubes for tightness.

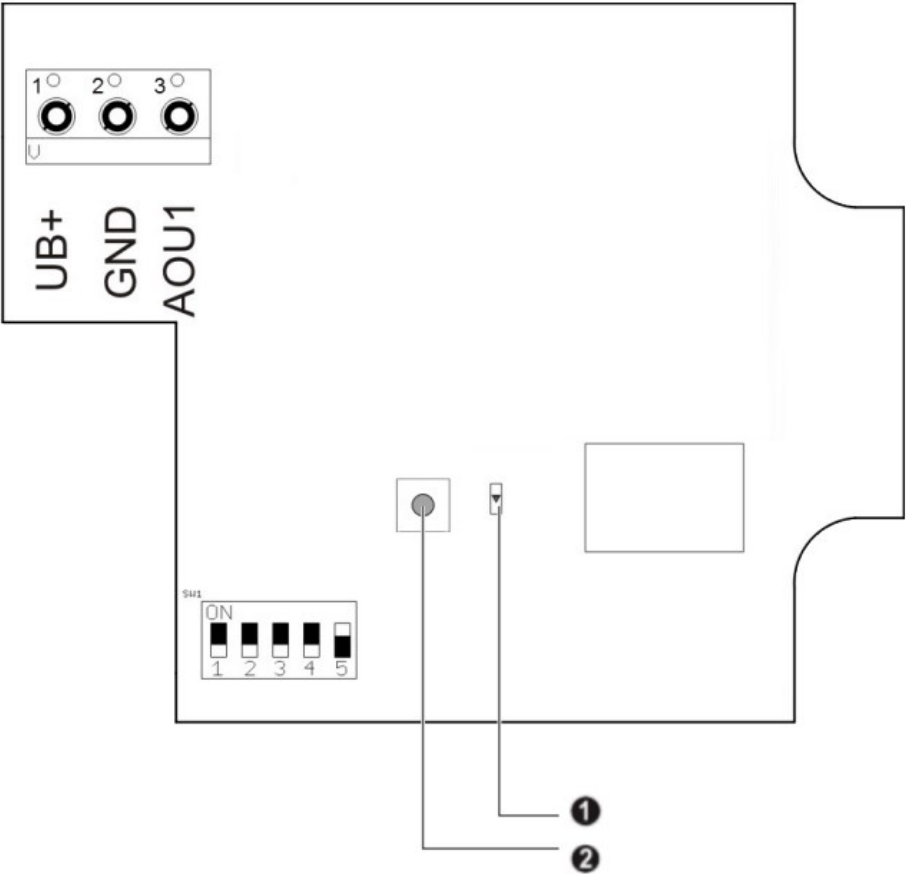
AZ – Automatic Zero-Point Calibration (optional)

Initial Power ON: Once the device is powered up, the Auto-zero reset will be performed multiple times in intervals shorter than 10mins (contrary to the operational mode). This is to compensate the self-heating of the sensor and PCB after start up and to provide accurate measurements throughout. After around 30mins, the device goes fully into operational mode.

Transmitters equipped with the automatic zero-point correction are maintenance-free.

The auto-zero calibration electronically adjusts the transmitter to zero every 10 minutes. The function eliminates all output signal drifts due to thermal, electronic or mechanical effects. The auto-zero adjustment takes approx. 4 seconds after which the device returns to its normal operation. During the 4 seconds correction phase, the output and display values will freeze to the last measured value. After the zero point correction, display values and output signal go back into live mode.

Connection



1	UB+	15..24 V = (±10%) or 24 V ~ (±10%)
2	GND	GND
3	AOU1	0..10 V differential pressure

UB+ → Power supply 24V
GND → Ground
AOUx → Analog output 0..10 V

DIP 1..DIP 3 Measuring ranges

DIP 1	DIP 2	DIP 3	Range
OFF	OFF	OFF	0..+2500 Pa (default setting)
ON	OFF	OFF	0..+2000 Pa
OFF	ON	OFF	0..+1500 Pa
ON	ON	OFF	0..+1000 Pa
OFF	OFF	ON	0..+500 Pa
ON	OFF	ON	0..+250 Pa
OFF	ON	ON	0..+100 Pa
ON	ON	ON	-100..+100 Pa

DIP 4 Response time

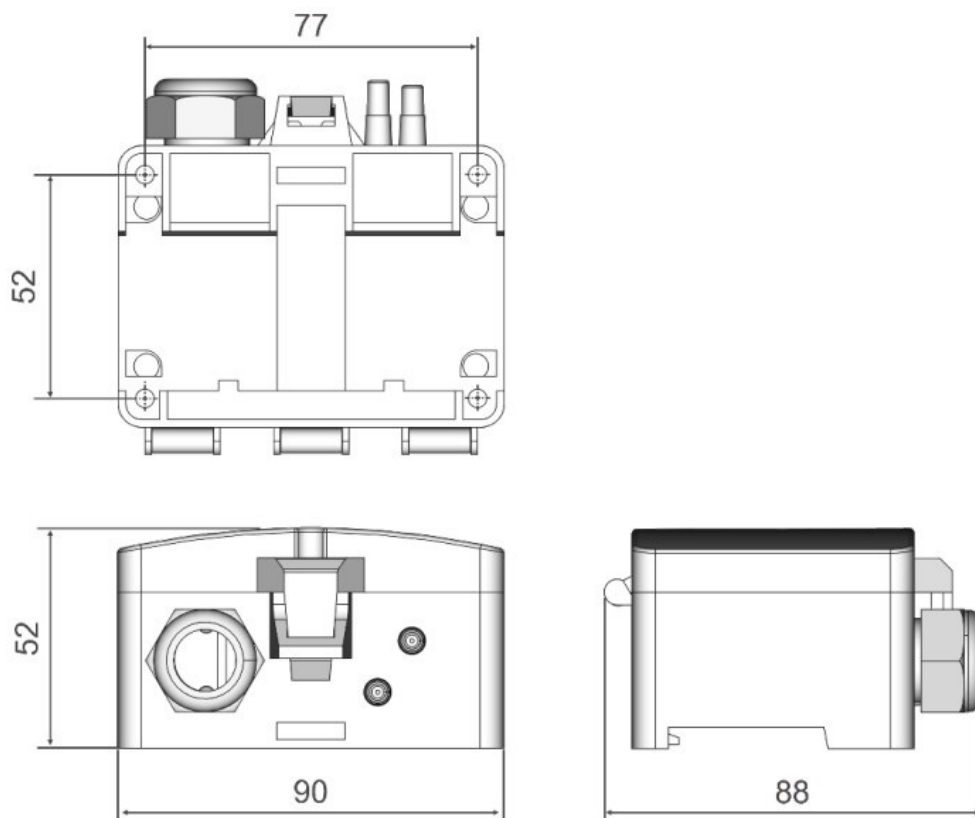
DIP 4	Response time
OFF	4 s (default setting)
ON	10 s

DIP 5 Display settings

DIP 5	LCD Backlight
OFF	Backlight OFF
ON	Backlight ON (default setting)

1. Status (Power LED)
2. Button for manual zero point correction During normal operation, a manual zero point correction should be performed every 12 months. Attention! In order to perform the manual zero point correction properly, the power supply must be connected at least one hour before.
 - Remove both connection tubes from the pressure terminals + and –
 - Press the button until the LED lights up permanently
 - Wait until the LED flashes again and reinstall the connection tubes to the pressure terminals (pay attention to + and -)

Dimensions (mm)



In order to reach IP 65 protection according to EN 60527, the cover has to be bolted e.g. using a screw 3,5×10 mm according to EN 7981.

UK Single Point of Contact

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Documents / Resources

	<p>Johnson Controls SDP2500 Differential Pressure Transmitter [pdf] Instruction Manual SDP2500 Differential Pressure Transmitter, SDP2500, Differential Pressure Transmitter, Pressu re Transmitter, Transmitter</p>
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References

- johnsoncontrols.com/locations